# INTEGRATED PROJECT DELIVERY IN MULTI-PARTY AGREEMENTS – A REAL CULTURAL CHANGE?

Bettina Geisseler
*GEISSELER LAW (law firm), Im Rebstall 1, 79112 Freiburg i.Br. Germany*
Klaus Rieker
*Wayss & Freytag Ingenieurbau AG, Eschborner Landstraße 130-132, 60489 Frankfurt am Main, Germany*

ABSTRACT: Large scale infrastructure projects often suffer from cost overruns compared to the originally agreed price or an execution time exceeding the agreed time for completing. This might have various causes, ranging from ambiguous wording in the description of the scope of works, unclear interfaces or imprecise provisions regarding the Employer's duties to cooperate or the occurrence of unforeseeable events.

To avoid lengthy disputes on the questions under which conditions the "fixed and firm price" as agreed by the parties can be modified or whether the time for completion can be extended due to a Force Majeure event or other unforeseeable events, Owners/Operators ("Employers") have begun to enter into Alliance Contracts with their Contractors ("Contractors") in the past years – with, as it seems, satisfying results.

Lately Multi-Party Agreements (MPA) using Integrated Project Delivery (IPD) in a partnership model, which contractually ties the Employer and his various Contractors such as the Planner, the civil works and other executing Contractors without those Contractors being bound by a Consortium Agreement, have been introduced in several European countries mainly in the railway sector.

The main characteristics of an MPA/IPD are an early involvement of all Contractors who calculate the (initial) project costs and define with the Employer at the beginning an opportunity and risk table.

the Employer's obligation during the project execution to compensate each Contractor for all actual costs incurred, without questioning whether the costs presented to be compensated are contractually justified. The Employer usually is protected against cost overruns by the fact that each Contractor must put a part of his calculated contribution margin into a so-called participation pool, which will not be distributed entirely to all Contractors, if there are cost overruns and – this depends on the agreed contractual set-up – an execution time exceeding the agreed time for completion.

All decisions regarding the project execution are taken by a Board (either with qualified majority or unanimously), in which the Employer and every Contractor have one vote.

The paper will analyze this contract model, highlight similarities respectively differences to classical contract models and offer "a retour d'expérience".

## 1. INTRODUCTION

Infrastructure or other large-scale construction projects such as railway, tunnel or hydropower plant projects are of complex nature, similar but always unique, and require unfortunately lengthy pre-project, planning and construction permitting phases and must at the time of being handed over or put in operation comply with all compulsory state regulations including the applicable technical standards at that time. The construction time for those major projects naturally lasts a few years adding those years to the complexity and vulnerability of the project caused by the factors mentioned above.

Potentially conflicting interests of various shareholders, the occurrence of unforeseen circumstances during the construction (such as ground conditions other than assumed, artificial obstructions or other hindrances), and necessary and/or by the Employer requested design changes during construction, make administration and execution of those projects under traditional contract conditions using Bill of Quantities or Lump Sum remuneration models very time-consuming. Experiences show that such models lead to confrontation between Employers and Contractors and sometimes lengthy disputes or even to a stop of the works during

the construction phase. Additionally, this never goes unnoticed and creates negative publicity for the respective project and the construction industry in general.

Over the past decades, traditional contract models and concepts have evolved. Amongst those are the FIDIC suits – ranging for example from the Red Book (build-only) to the Silver Book (EPC/Turnkey) and including the Emerald Book specifically for underground works – or the NEC (New Engineering Contracts) series initiated in the United Kingdom in 1986 with the latest edition being the NEC4 contract model.

A game changer seemed to be the introduction of so-called Alliancing contracts or the principle of Early Contractor Involvement (ECI) on the market.

However, a major issue in a multi-contracting structure remained: the handling of the interfaces between several Contractors whose supplies and services partly depend on each other and whose performance or non-performance might have a (negative) impact on the performance of other parties. Recently an Integrated Project Delivery approach using Multi-Party Agreements was introduced in the European market and is currently being used occasionally, mainly in the railway sector.

When following the Integrated Project Delivery model, the Designer and the Contractor(s) are selected and appointed early to overcome the conventional separation of design and construction. In the following chapters the selection of partners under an IPD model and the mechanisms of the model and the characteristics of Multi-Party Agreements will be described.

# 2. MULTI-PARTY AGREEMENTS AND THE INTEGRATED PROJECT DELIVERY METHOD

## 2.1 CHARACTERISTICS

The purpose of an IPD in an MPA is to create a new approach where all parties involved in the planning and construction phase work together from the very beginning and manage the whole project jointly. The method shall encourage a cultural change where all contractual parties – called Partners – shall collaborate in a spirit of mutual trust, take continuously joint decisions for the project management, support each other in the best possible way and provide their services in the interest of the best possible project success.

## 2.2 SELECTION OF PARTNERS

Once the Employer has published the call for Expression of Interest (EoI) stating the nature and scope of work, the intended delivery time frame, prerequisites for participation, the procedure and criteria for selecting partners and the contract form to be used, interested parties can start applying to be qualified for the staged selection procedure. The EoI will also state the final ratio between price and quality (soft points) on which an award will be given (i.e. 50:50, 60:40, 40:60, etc.).

Tenderers will receive the selection criteria upon which the Employer will qualify tenderers who submit an EoI. Those could include for example references for similar projects carried out and/or experiences with IPD. Generally, the number of pre-qualified candidates is limited to five.

The pre-qualified tenderers will then receive the tender documents for their first offer. Those documents will elaborate on the criteria upon which the first and the second offer will be evaluated. Typically, those encompass 6 to 8 topics on personnel (number and qualification), plans on construction methods, logistics, plant and equipment, and quality control, on percentage of overhead and profit, on percentage of contribution into the so-called contribution pool, on hourly and/or daily rates for personnel and separately for travelling and accommodation, on rates for depreciation and repair for plant and equipment, and last but not least how personnel will be rated during the assessment center carried out after the first offer if the tenderer has been accepted.

The number of tenderers going forward to the assessment center and being qualified to submit a second offer, are typically limited to three. The percentages/points achievable for the different criteria will be different for the first and second offer to be able to take the results from the assessment center into account.

The Planner and the executing Contractor(s) are going simultaneously, but independently through the tender selection process. Depending on the nature of the project and the scope of work, the Employer

will select one or more Contractors, each of them being – besides the Planner - the executing Contractor for one part of the work.

The Employer will after the submission of the second - binding - offer and the evaluation based on the criteria specified, notify the successful tenderer for executing the project and ask him to enter the MPA with the Employer and the other selected Contractors. In this Agreement, Key Performance Indicators (KPIs) are normally agreed. Those could include safety, quality, and/or time related performances.

As mentioned, all the Contractors are bound by one single Agreement, without having had the opportunity to choose their Co-Contractors.

## 2.3 THE PROJECT'S PHASES

A typical contract (such as used by a European Employer with respect to a large–scale infrastructure project) provides for two phases:

During Phase 1, all Partners - including the Employer - are responsible for the entire planning process. In this phase the Partners will establish a detailed execution programme for the works with specifications and a detailed planning and construction schedule.

A key element within Phase 1 is the calculation of the costs by each Contractor resulting in the establishment of a document with the project's overall target construction costs as well as the identification and evaluation of potential project related risks. Those will be assessed – with the probability of their materialization - within the forecasted costs and attributed to one of the Contractors, who will then bear the burden to potentially provide his services to overcome this risk. They will be listed in a so–called opportunity and risk table (in German "CRT") – together with their calculated costs and corresponding risk provisions, exempted are the "Employer risks" to be borne by the Employer.

As mentioned above; while calculating the actual costs, all Contractors must follow the principle of transparency. This means e.g.: in case a Contractor wants to engage a subcontractor, he must make available all information relating to the contractual relationship with this subcontractor to all other Partners.

It should also be noted that the concept of the Integrated Project Delivery method and cooperative project management might lead to a difficult situation at the end of Phase 1, when the target cost document must be established jointly. Every Contractor needs a fair price, calculated for his services / works and to be (under the reservation mentioned below) be disclosed to the Co-Contractors. The overall interest of all the Contractors might be to lower the overall target costs in order not to endanger that the Employer refrains from calling the option for execution or to increase them sufficiently (by increasing the risk provisions) to avoid tapping into the participation pool later.

At the end of Phase 1, the target construction costs for the execution of the entire project shall have been jointly defined and the services to be delivered by the Planner performed.

Based upon this the Employer (reflecting in particular whether the target costs are within his budget) will call the option for Phase 2 (execution of the project). If not, the execution of the project would be cancelled and no compensation over and above the costs incurred until such time (services to be performed during Phase 1) would be given to the Contractors involved.

## 2.4 THE PARTNERS' DUTIES - COLLABORATION AND INTERFACE MANAGEMENT

Depending on the nature of the project and the scope of work, the Employer might select more than one Contractor. Typically, the contract forms include a provision according to which "the Partners are aware that this contract requires a change of mindset on the part of the employees and that the sometimes-confrontational behavior prevailing in conventional construction projects shall be abandoned. Instead, the Partners must be able to work together cooperatively and with a focus on the project objective, whereby transparency regarding the information relevant to the project, open and respectful communication with each other and a positive error culture are mandatory prerequisites for the success of the project. The Partners will therefore support each other in achieving overall cooperative project management" and "ensure to deploy only those employees with the organizational bodies being familiar with the system of cooperative project management" (The contractual provisions).

Characteristics of this contract form are:

- All Partners must disclose all information that is relevant to the project or a Partner, without reservation and exchange such transparent with each other. Exempted is only confidential company information that requires confidentiality, which must be disclosed to the auditor mandated by the Employer only.
- Though each Partner provides his services in his own responsibility, all provide their services in coordination with each other and each Partner must enable the other Partners to optimize their advisory functions regarding the task they are responsible for.
- The planning, realizations and execution of the entire project is carried out jointly by all Partners.
- "Planning and construction must be carried out in all phases of the project on the basis that the services of the Partners in the value chain are only to be provided when they are actually useful and necessary for the downstream services (pull principle or pull planning)" (The contractual provisions).

# 3. THE ORGANISATIONAL UNITS – THE DECISION-MAKING PROCESS – THE DISPUTE RESOLUTION

## 3.1 ORGANIZATIONAL UNITS AND DECISION-MAKING PROCESS

The project is administered by three bodies: the Project Realization Team (PRT), the Project Management Team (PMT), and the Senior Management Team (SMT). Each Partner will have nominated his personnel during the tender process for the various teams.

The people who are responsible for the day-to-day realization of the project are referred to as the Project realization Team (PRT) and will receive directions from the PMT and report to the PMT.

The Project Management Team is formed by one or two representatives – the project managers - from each Partner, i.e. the Employer and all the Contractors. Each Partner has one vote (irrespective of its financial share in the project). This body is primarily responsible for all important questions of the project execution such as the organization of the PRTs, the preparation of the target cost document and the opportunity and risk table, the continuous review and updating of the construction schedule, listing and updating of reimbursable actual costs as well as the review of the costs incurred and invoices on intermediate (account) payments. In the contracts known to the authors the PMT decides with unanimity of the members present under the condition that not more than two Partners from the Contractor side are absent, and the Employer is always represented.

It should be noted that the PMT can attribute works/services to one of the Contractors in case of gaps, overlaps or ambiguities in the description of the Works.

The Contracts known to the authors declare that the PMT has at any time act in the sense of "best for the project", and not to single out particular interests of one Partner.

Furthermore, a Strategic or Senior Management Team (SMT) will be installed, in which each Partner has one vote – irrespective of its (financial) share in the project. It will be composed of members of the management of the Partners, having the authority to make all project–related decisions alone. Its purpose is to regularly inform the Partners about the status of the Project and at the same time it serves as the ultimate decision body, whereby decisions are made with a majority of 75 % of the votes.

Additionally, the Employer often provides the PMT with a so-called Alliance Manager (whose remuneration is part of the target costs), who shall "in the best interest of the project" support the PMT in organizing the tasks of the PMT, i.e. the planning and project execution. An IPD Coach might be appointed (and remunerated) by the Employer to support the PMT in acting in a cooperative way. According to the typical contract forms on MPA/ IPD the Coach must act impartially.

## 3.2 DISPUTE RESOLUTION

All contracts for major projects should include some form of dispute avoidance mechanism and ultimately a path to resolve matters between the parties without going to an ordinary court. Court proceedings are time consuming and expensive. Since most of the courts lack technical expertise, experts upon experts are called delaying the process further.

The first step is to include in the contract the requirement to establish a DAAB (Dispute Avoidance & Adjudication Board) or DAB (Dispute Adjudication Board) Board. This could either be an Ad-hoc or Standing Board. Both could consist of one (1) or three (3) persons – whereby our recommendation is a Standing 3-person Board.

The Standing 3-person Board is nominated at contract commencement. According to common practise the Employer and the Contractor each nominate one person. Subsequently those two select a chairman. In case they fail, the chairman could be appointed by or according to the rules of the ICC (International Chamber of Commerce) in Paris. Generally, the Board consists of two engineers and a lawyer (chairman) and reimbursement is split between the parties.

Once established, this Board meets on the construction site quarterly. Such meetings encompass a joint site visit with the Employer and Contractor and a joint presentation of the status of the works, the challenges, and early warnings of disagreements between the parties. Thereafter, the Board will deliver a summary report of the meeting.

This implementation has the advantage that the Board is well informed and could react swiftly should they be called upon. An Ad-hoc Board would first have to be formed delaying any solution and a 1-person Board might be overwhelmed by the complexity of a major project and includes the risk of unavailability.

Any recommendation/decision by the Board should be binding upon both parties until and unless overturned by a higher body. This, i.e. the second step, should be an arbitration panel/board. Appointment of an Arbitration Board follows the same principles as for a DAB.

Arbitration is more formal than Dispute Avoidance/Adjudication and in principle closer to court proceedings. It should be agreed between the parties beforehand, if the decision of the Arbitrators is finally binding or if a challenge in court is allowed. If so, going to an ordinary court would be the third step. To take it further, a fourth step would be going to a Court of Appeal. However, step 3 and more so step 4 would be far distanced from the actual matter at hand and would only deal with shortcomings in formalities and legal procedures.

When using the IPD project execution model, Partners can take recourse to an ordinary state court when the specific dispute resolution mechanism according to such MPA/IPD contracts has been exhausted. The first attempt to reach an amicable solution rests with the PMT, if necessary, with the help of the IPD Coach. If this is not successful, each Partner may request the decision of the SMT. If a decision by the SMT is not reached or if the Partner(s) concerned disagree with such a decision, the dispute will be handled – upon request by the Partner(s) concerned - in a mediation procedure. The mediator will be appointed by the SMT and shall give a recommendation on how to overcome the dispute. Only if then the Partners concerned disagree and remain in dispute, can they make recourse to an ordinary state court. During the dispute resolution procedure neither Partner has the right to refuse to perform, and the so-called statute of limitations (prescription period) is suspended.

# 4. TARGET COSTS – CHANGE IN THE SCOPE OF WORKS AND ADJUSTMENT OF TARGET COSTS – REMUNERATION AND PARTICIPATION POOL

## 4.1 CALCULATION OF THE TARGET COSTS/ TARGET COST DOCUMENT

The target costs, called target costs II to be forecasted and to be determined by the Contractors in Phase 1 consist of the production costs (target costs I) plus the contribution margin, calculated on the basis of the target costs I. These target costs will be recorded in the target costs document serving the Employer for his decision whether to call the option for Phase 2 (execution) or not.

The target costs II are the overall reference value for the calculated costs of the project to be borne by the Employer and the basis for the remuneration of each Contractor under the conditions (incentives/ loss of the share in the so-called participation pool) as agreed upon in the Contract.

The target costs I are made up of the base costs (the aggregate of the individual costs of each Contractor's services to be provided under the Contract and the general overhead for the construction site) and the provision for risk costs.

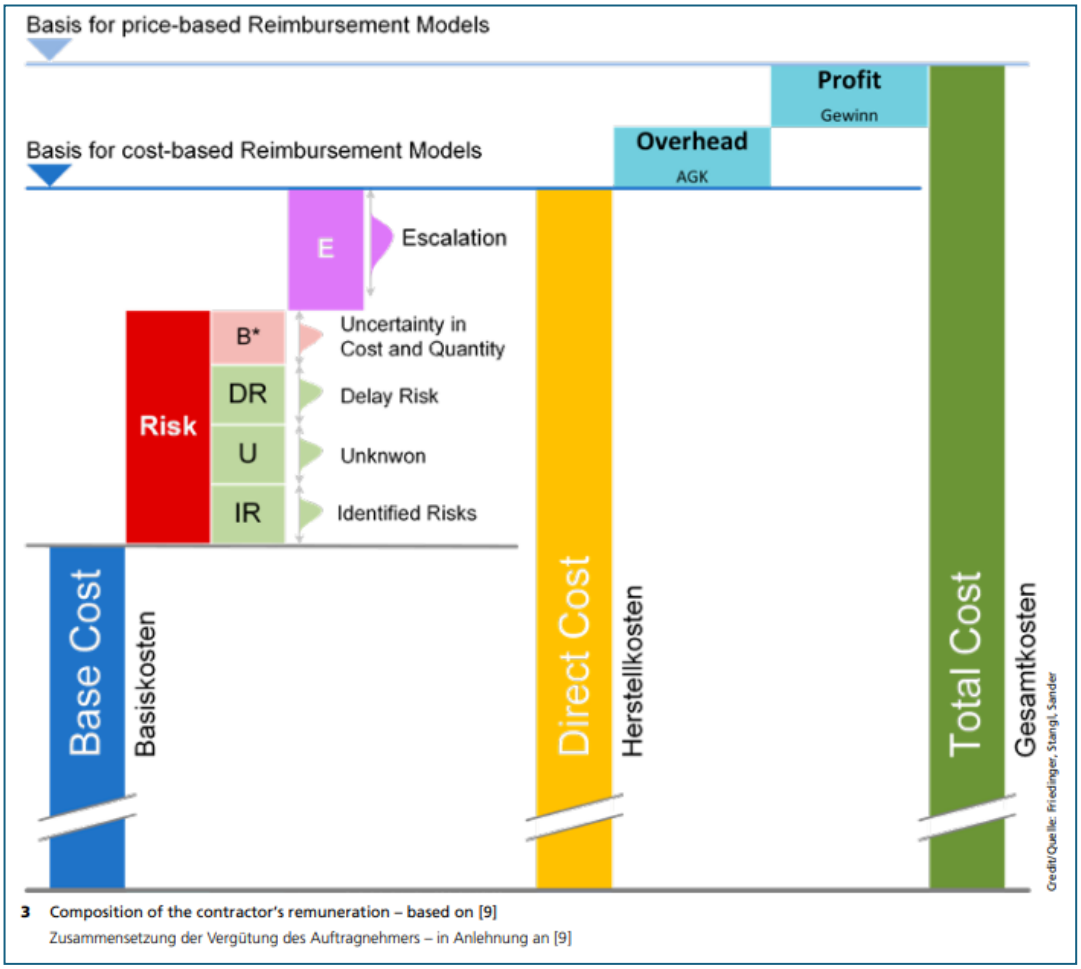


Figure 1: cost calculation in IPD contract models, © tunnel (official Journal of STUVA e.V.) no. 4-5, 2025

## 4.2 REMUNERATION

The Contractors will be remunerated for their services performed as follows: the remuneration due to the Contractors is the compensation for the reimbursable actual costs (i.e. the actual costs incurred for the services provided, to be demonstrated/proven) plus the individual contribution margin.

## 4.3 PARTICIPATION POOL – COST OVERRUNS – TIME EXCEEDING THE AGREED TIME FOR COMPLETION

Contractors are requested to indicate in their offer the contribution percentage they are willing to chip in if during the execution of the project in Phase 2 the actual costs exceed the pre-determined target costs established in Phase 1 and / or the time for the deadline for the completion of the works been exceeded. Employers are typically expecting from civil work Contractors or other so-called executing Contractors that the contribution percentage would be higher than the profit percentage and would include a portion of or the total company overhead percentage. The individually calculated contribution fees (target costs I multiplied with the offered percentage) reflect the share of each Contractor in the so-called participation pool, which is equal to the aggregate amount of all participation fees.

In case the reimbursable actual costs exceed the target costs I, the participation pool will be reduced. This would finally reduce the project specific margin in case the actual costs during execution are higher than the construction costs estimated and agreed during Phase 1. Expectations are that the Contractor would in such case not incur any profit and on top of that recover only a certain amount of company overhead (or not overhead at all).

The upside for the Contractor of this model however is, that an incentive model will be agreed as well beforehand. In case the actual costs during execution are lower than the construction costs estimated and agreed in Phase 1, the Contractor and the Employer will participate in the savings in an agreed format (generally splitting the savings).

The different Partners participate in the incentives respectively reduction/loss resulting from a partial or complete reduction of the participation pool according to their (financial) share in the participation pool, which only will be distributed as final settlement after the completion of the whole project.

### 4.4 ADJUSTMENTS OF THE TARGET COSTS

The reference document is the detailed execution programme jointly determined by the Partners in Phase 1 – as basis for the target costs I and II and the calculated risks as part of the opportunity and risk table (CRT). As long as the performance target remains unchanged the target costs remain unchanged as well – even in case of upcoming deviations from the execution programme.

## 5. DEFECTS AND DELAY

In case of defects, the responsible Contractor – in principle – must remedy the defect, the costs incurred must be listed separately but will be reimbursed. If other Partners incur costs because of those defects, such costs will also be reimbursed. If this leads to a reduction of the participation pool, the Contractors are liable to each other in respect of damages another Contractor incurs with respect to the reduction of the participation pool, only to a limited extent. It will depend on the agreement in how far this will apply as well in cases of delay caused by one Contractor leading to the exceeding of the agreed time for completion.

## 6. CONCLUSION

The authors evaluate the new contract model differently. From the executing engineer's point of view: The partnership model Integrated Project Delivery has advantages, since it speeds up project implementation by developing the design, the construction programme and costs early and jointly by all parties involved. Furthermore, risk allocation and mitigation measures are also developed jointly from the onset and a risk and opportunity register is implemented and populated. In case some of the risks identified will materialize during construction, provisions are in place and should therefore not influence the overall execution tremendously. Thus, no negative reporting should occur, and the project could be displayed as a true success story.

The Contractors must invest in Phase 1 quite some personnel, which will not create a lot of turn over contrary to the normal business conduct. In Phase 2 however, recovering the actual construction costs is ensured plus if the incentive becomes applicable, the chance of recovering more than the company overheads and assumed profit is given.

Integrated Project Delivery ensures openness between all parties including the Employer who is involved in all steps along the execution and required to make swift decisions with the other Partners. The interests are aligned ensuring a timely and most economical delivery.

In Germany, a few projects have and are currently being executed using this approach by the German Railway authority (Deutsche Bahn). So far, with good results.

However, the success of the Integrated Project Delivery approach, as any other conventional approach mentioned earlier, depends on the early project initiation phase. If for example insufficient soil investigations are carried out, if the scope of the works is unclear or changes later, and if not all aspects of the various stakeholders are identified or being considered, no success story can be told later.

From the lawyer's point of view:

Whether the new contract model helps to relieve the parties of disputes over the compensation for additional costs and/or requested extensions, still has to be proven. A very critical point seems to be that the Co-Contractors are bound to each other by an agreement without having chosen each other as partner of a consortium.

Regarding the decision-making process one Contractor – depending on the numbers of Contractors involved – can be overruled according to the per capita voting principle regardless of his financial (volume of services to be provided) share in the project.

The "best for the project" rule , the fact, that the common decision body might attribute services to one partner, the "pull principle" and the rule of "pull planning" as well as the partial abandoning of the

principle that the responsible Contractor having caused a defect or other non-performance is solely responsible for remedying this defect might lead to a socialization of liability rendering the joint project execution more difficult.

Whether the establishment of an opportunity and risk table prevents discussions about the question of whether unforeseeable events materializing result in changed circumstances and will lead to a modification of the performance target as expressed in the execution programme and an adaptation of the target costs still must be proven.

## LITERATURE / REFERENCES

The contractual provisions quoted are taken from a typical MPA used by a European Employer for a large – scale infrastructure project.

***Title, author's name, surname: Bettina Geisseler, Lawyer***
***GEISSELER LAW***
***geisseler@geisseler-law.com***

***Dipl.-Ing. Dr. techn. Klaus Rieker***
***Wayss & Freytag Ingenieurbau AG***
***Klaus.Rieker@wf-ib.de***